TruVision IP Camera Configuration Manual

Firmware 5.0X

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Chapter 1
Introduction

This is the user manual for TruVision IP camera models:

- TVB-1101 (1.3MPX IP bullet camera, PAL)
- TVB-3101 (1.3MPX IP bullet camera, NTSC)
- TVB-1102 (3MPX IP bullet camera, PAL)
- TVB-3102 (3MPX IP bullet camera, NTSC)
- TVD-1103 (1.3MPX IP VF mini dome, PAL)
- TVD-3103 (1.3MPX IP VF mini dome, NTSC)
- TVD-1104 (3MPX IP VF mini dome, PAL)
- TVD-3104 (3MPX IP VF mini dome, NTSC)
- TVD-1101 (1.3MPX IP indoor mini dome, PAL)
- TVD-3101 (1.3MPX IP indoor mini dome, NTSC)
- TVD-1102 (3MPX IP indoor mini dome, PAL)
- TVD-3102 (3MPX IP indoor mini dome, NTSC)
- TVW-1101 (1.3MPX IP wedge dome, PAL)
- TVW-3101 (1.3MPX IP wedge dome, NTSC)
- TVW-1102 (3MPX IP wedge dome, PAL)
- TVW-3102 (3MPX IP wedge dome, NTSC)

Chapter 2
Network access

This manual explains how to configure the camera over the network with a web browser.

TruVision IP cameras can be configured and controlled using Microsoft Internet Explorer (IE) and other browsers. The procedures described use Microsoft Internet Explorer (IE) web browser.

Checking your web browser security level

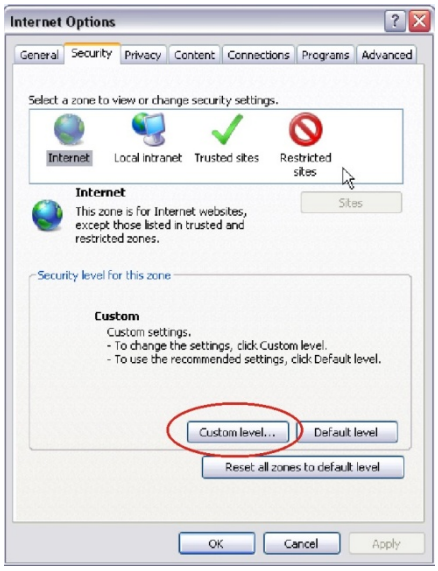
When using the web browser interface, you can install ActiveX controls to connect and view video using Internet Explorer. However, you cannot download data, such as video and images due to the increased security measure. Consequently you should check the security level of your PC so that you are able to interact with the cameras over the web and, if necessary, modify the Active X settings.

Configuring IE ActiveX controls

You should confirm the ActiveX settings of your web browser.

To change the web browser's security level:

1. In Internet Explorer click **Internet Options** on the **Tools** menu.
2. On the Security tab, click the zone to which you want to assign a web site under "Select a web content zone to specify its security settings".
3. Click **Custom Level**.

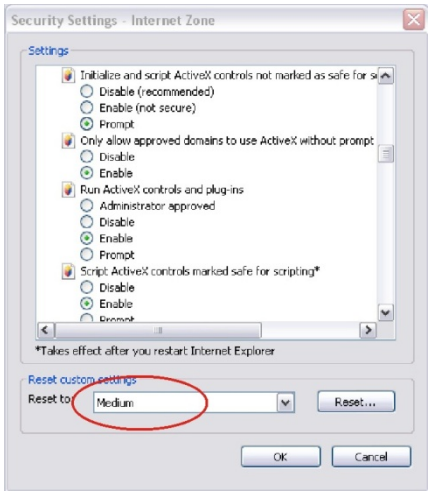


4. Change the **ActiveX controls and plug-ins** options that are signed or marked as safe to **Enable**. Change the **ActiveX controls and plug-ins** options that are unsigned to **Prompt** or **Disable**. Click **OK**.

   - or -

   Under **Reset Custom Settings**, click the security level for the whole zone in the Reset To box, and select **Medium**. Click **Reset**.

   Then click **OK** to the Internet Options Security tab window.



5. Click **Apply** in the **Internet Options** Security tab window.

Windows Vista and 7 users

Internet Explorer for Windows Vista and Windows 7 operating systems have increased security measures to protect your PC from any malicious software being installed.

To have complete functionality of the web browser interface with Windows Vista and Windows 7, do the following:

- Run the Browser interface as an administrator in your workstation

- Add the camera's IP address to your browser's list of trusted sites

To add the camera's IP address to Internet Explorer's list of trusted sites:

1. Open Internet Explorer.
2. Click **Tools**, and then **Internet Options**.
3. Click the **Security** tab, and then select the Trusted sites icon.
4. Click the **Sites** button.
5. Clear the "Require server verification (https:) for all sites in this zone box.
6. Enter the IP address in the "Add this website to the zone" field.
7. Click **Add**, and then click **Close**.
8. Click **OK** in the Internet Options dialog window.
9. Connect to the camera for full browser functionality.

Accessing the camera over the internet

Use the web browser to access and configure the camera over the internet.

It is recommended that you change the administrator password once the set up is complete. Only authorized users should be able to modify camera settings. See "User management" on page 35 for further information.

To access the camera online:

1. In the web browser enter the camera's IP address (default is 192.168.1.70). Use the tool, *TruVision Device Finder*, enclosed on the CD to find the IP address of the camera.

   The Login dialog box appears.

   Note: Ensure that the Active X controls are enabled.
2. Enter your user name and password.

   User name: admin

   Password: 1234
3. Click **Login**. The web browser window appears in live view mode.

Overview of the camera web browser

The camera web browser lets you view, record, and play back recorded videos as well as manage the camera from any PC with Internet access. The browser's easy-to-use controls give you quick access to all camera functions. See Figure 1 on page 6.

If there is more than one camera connected over the network, open a separate web browser window for each individual camera.

Figure 1: Web browser interface

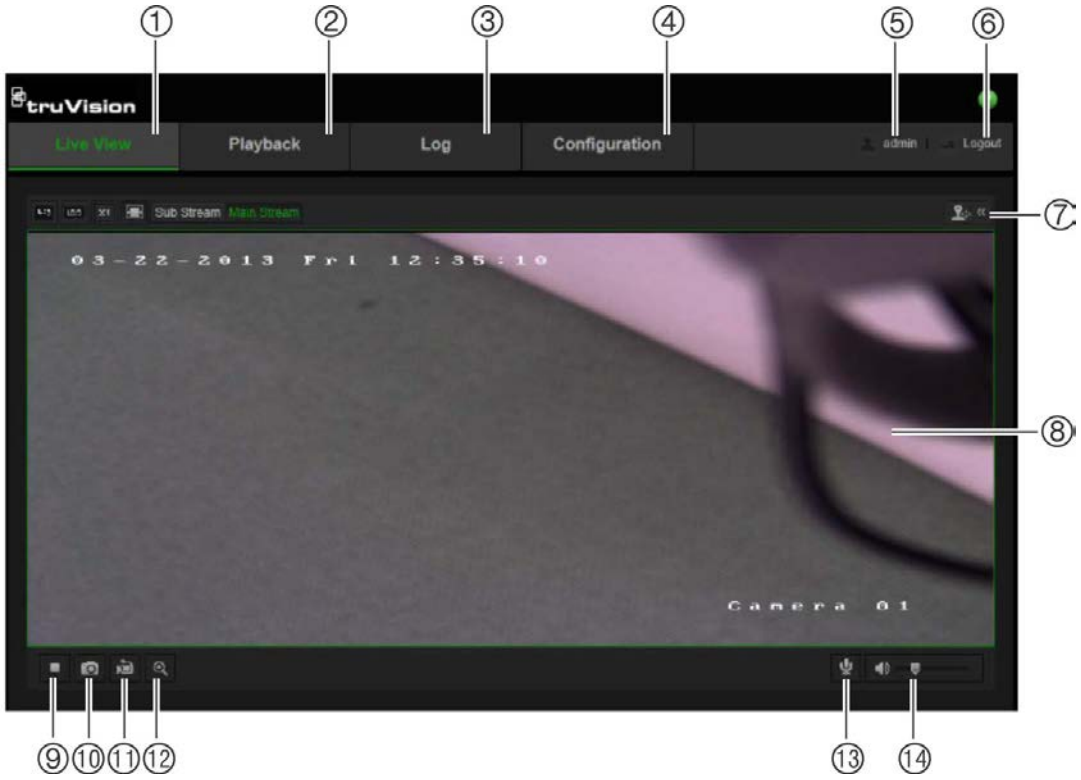


Table 1: Overview of the web browser interface

No.	Name	Description
1.	Live view	Click to view live video.
2.	Playback	Click to play back video.
3.	Log	Click to search for event logs. There are three main types: Alarm, Exception and Operation.
4.	Configuration	Click to display the configuration window for setting up the camera.
5.	Current user	Displays current user logged on.
6.	Logout	Click to log out from the system. This can be done at anytime.
7.	PTZ controls	Direction actions, zoom, focus, iris, light and wiper control. **Note:** Direction actions, lighter and wiper control can be used if the camera supports RS-485 and external pan/tilt unit, light or wiper is installed.
8.	Viewer	View live video. Time, date and camera name are displayed here.
9.	Start/stop live view	Click to start/stop live view.
10.	Capture	Click to take a snapshot of the video. The snapshot will be saved to the default folder in JPEG format.
11.	Start/stop recording	Click to record live video.

No.	Name	Description
12.	Digital Zoom	Click to enable digital zoom.
13.	Bidirectional audio	Turn on/off microphone.
14.	Audio	Adjust volume.

Chapter 3
Camera configuration

This chapter explains how to configure the cameras through a web browser.

Once the camera hardware has been installed, configure the camera's settings through the web browser. You must have administrator rights in order to configure the cameras over the internet.

The camera web browser lets you configure the camera remotely using your PC. Web browser options may vary depending on camera model. The camera is configured using on-screen display (OSD) menus.

There are two main folders in the configuration panel:

- Local configuration
- Configuration

Configuration menu overview

Use the **Configuration** panel to configure the server, network, camera, alarms, users, transactions and other parameters such as upgrading the firmware. See Figure 2 and Table 2 below for descriptions of the configuration folders available.

Figure 2: Configuration panel (Device Information tab selected)

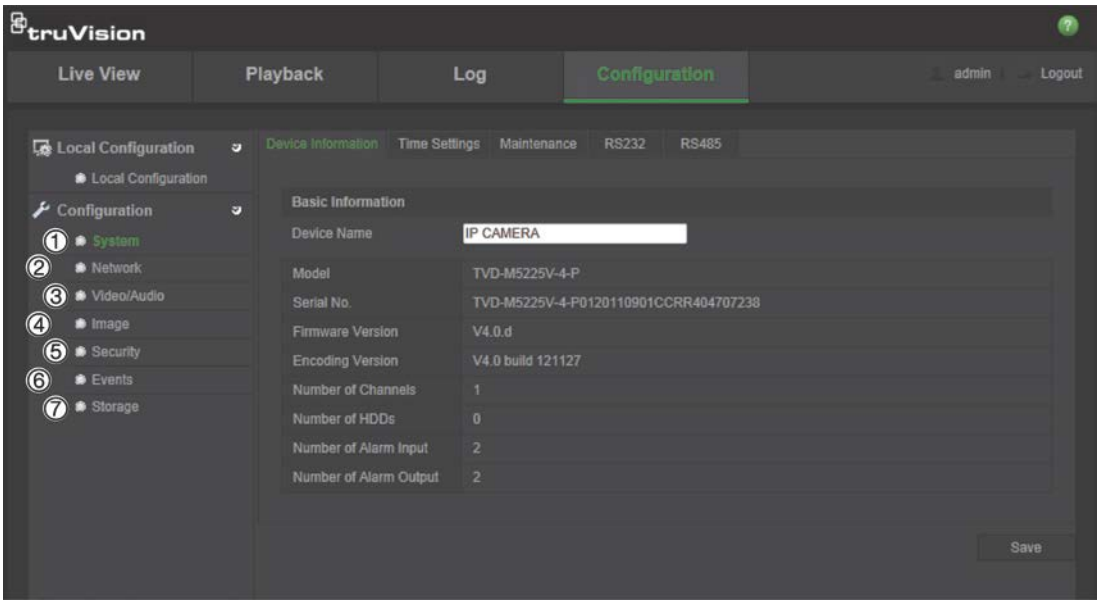


Table 2: Overview of the Configuration panel

No.	Configuration folders	Description
1.	System	Defines device basic information including SN and the current firmware version, time settings, maintenance, and serial port parameters.
2.	Network	Defines the network parameters required to access the camera over the internet.
3.	Video/Audio	Defines recording parameters.
4.	Image	Defines the image parameters, OSD settings, overlay text, and privacy mask.
5.	Security	Defines who can use the camera, their passwords and access privileges, RTSP authentication, IP address filter, and telnet access.
6.	Events	Defines motion detection, tamper-proof, alarm input/output, exception, and snapshot configuration.
7.	Storage	Defines recording schedule, storage management, and NAS configuration.

Local configuration

Use the Local menu to manage the protocol type, live view performance and local storage paths. In the Configuration panel, click **Local Configuration** to display the local configuration window. See Figure 3 and Table 3 below for descriptions of the different menu parameters.

Figure 3: Example of a configuration window (Local configuration shown)

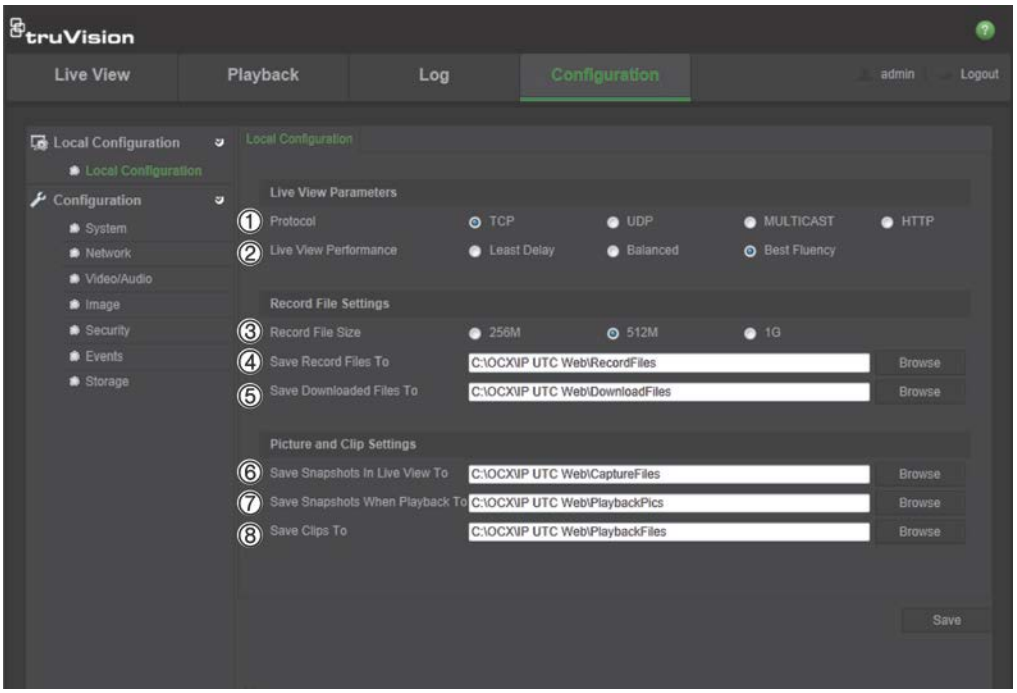


Table 3: Overview of the Local configuration window

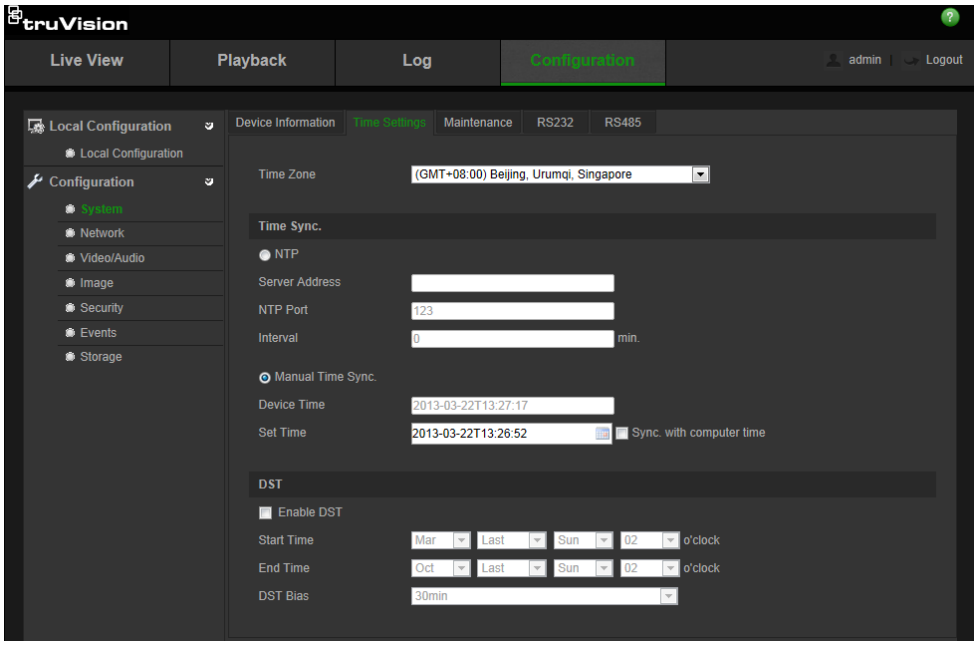
No.	Parameters	Description
	Live View Parameters	
1.	Protocol	Specifies the network protocol used. Options include: TCP, UDP, MULTICAST and HTTP.
2.	Live View Performance	Specifies the transmission speed. Options include: Least Delay, Balanced or Best Fluency.
	Record File Settings	
3.	Record File Size	Specifies the maximum file size. Options include: 256 MB, 512 MB and 1G.
4.	Save Record Files to	Specifies the directory for recorded files.
5.	Save Downloaded Files to	Specifies the directory for downloaded files.
	Picture and Clip Settings	
6.	Save Snapshots In Live View To	Specifies the directory for saving snapshots in live view mode.
7.	Save Snapshots When Playback To	Specifies the directory for saving snapshots in playback mode.
8.	Save Clips To	Specifies the directory for saving video clips in playback mode.

System time

NTP (Network Time Protocol) is a protocol for synchronizing the clocks of network devices, such as IP cameras and computers. Connecting network devices to a dedicated NTP time server ensures that they are all synchronized.

To define the system time and date:

1. In the **System** folder, click the **Time Settings** tab to open its window.



2. From the **Time Zone** drop-down menu, select the time zone that is the closest to the camera's location.
3. Under **Time Sync**, check one of the options for setting the time and date:

   Synchronize with an NTP server: Check the **NTP** enable box and enter the server NTP address. The time interval can be set from 1 to 10080 minutes.

   - Or -

   Set manually: Enable the **Manual Time Sync** function and then click to set the system time from the pop-up calendar.

   Note: You can also check the **Sync with computer time** checkbox to synchronize the time of the camera with the time of your computer.
4. Check **Enable DST** to enable the DST function, and set the date of the DST period.
5. Click **Save** to save changes.

Network settings

Accessing the camera through a network requires that you define certain network settings. Use the “Network” folder to define the network settings. See Figure 4 and Table 4 below for further information.

Figure 4: Network window (TCP/IP tab shown)

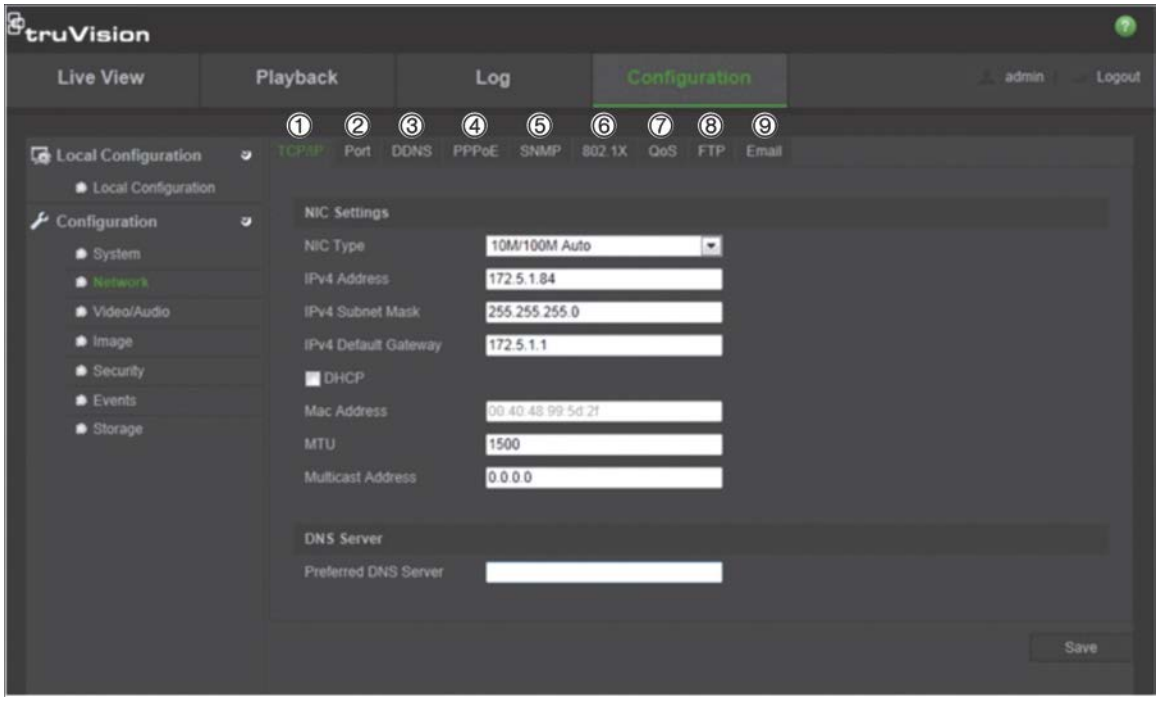


Table 4: Network parameters

No.	Parameters	Description
1.	TCP/IP	**NIC Type:** Specifies the NIC type. Default is Auto. Other options include: 10M Half-dup, 10M Full-dup, 100M Half-dup and 100M Full-dup. **DHCP:** Enable to automatically obtain an IP address and other network settings from that server. **IPv4 Address:** Specifies the IPv4 address of the camera. **IPv4 Subnet Mask:** Specifies the IPv4 subnet mask. **IPv4 Default Gateway:** Specifies the IPv4 gateway IP address. **IPv6 Mode:** Specifies the IPv6 mode, including Manual, DHCP and Router Advertisement. **IPv6 Address:** Specifies the IPv6 address of the camera. **IPv6 Subnet Prefix Length:** Specifies the IPv6 prefix length. **IPv6 Default Gateway:** Specifies the IPv6 gateway IP address. **Mac Address:** Set to 00:4d:c1:33:11:d4. **MTU:** Specifies the valid value range of MTU. Default is 1500. **Multicast Address:** Specifies a D-class IP address between 224.0.0.0 to 239.255.255.255. Only specify this option if you are using the multicast function. Some routers prohibit the use of multicast function in case of a network storm. **DNS server:** Specifies the DNS server for your network.

No.	Parameters	Description
2.	Port	**HTTP Port:** Specifies the port used for the Internet Explorer (IE) browser. Default value is 80. **RTSP Port:** Specifies the RTSP port. The default port number is 554. **HTTPS Port:** Specifies the HTTPS port. The default port number is 443. **SDK Port:** Specifies the SDK port. The default port number is 8000.
3.	DDNS	Specifies IP server, DynDNS and ezDDNS.
4.	PPPoE	Use this option to retrieve a dynamic IP address.
5.	SNMP	Enable SNMP to get camera status and parameters related information.
6.	802.1.X	When the feature is enabled, the camera data is secured and user authentication is needed when connecting the camera to the network.
7.	QoS	Enable to solve the network delay and network congestion by configuring the priority of data sending.
8.	FTP	Specifies the FTP address and folder to which snapshots of the camera can be uploaded.
9.	Email	Specifies the email address to which messages are sent when an alarm occurs.

To define the TCP/IP parameters:

1. In the **Network** folder, click the **TCP/IP** tab to open its window.
2. Configure the NIC settings, including the NIC Type, IPv4 settings, IPv6 settings, MTU settings, and Multicast Address.
3. If the DHCP server is available, check **DHCP**.
4. If the DNS server settings are required for some applications (e.g., sending email), you should configure the **Preferred DNS Server or Alternate DNS Server**.
5. Click **Save** to save changes.

To define the port parameters:

1. In the **Network** folder, click the **Port** tab to open its window.
2. Set the HTTP port, RTSP port, HTTPS port and SDK port of the camera.
3. Click **Save** to save changes.

To define the DDNS parameters:

1. In the **Network** folder, click the **DDNS** tab to open its window.
2. Check **Enable DDNS** to enable this feature.
3. Select **DDNS Type**. Two options are available: DynDNS and IPServer.
   - **DynDNS:** Enter the user name and password registered to the DynDNS web site. The domain name is that of the DynDNS web site.
   - **ezDDNS:** Enter the host name, it will automatically register it online.
   - **IPServer:** Enter the address of the IP Server.

4. Click **Save** to save changes.

To define the PPPoE parameters:

1. In the **Network** folder, click the **PPPoE** tab to open its window.
2. Check **Enable PPPoE** to enable this feature.
3. Enter User Name, Password, and Confirm password for PPPoE access.
4. Click **Save** to save changes.

To define the SNMP parameters:

Note: Before setting the SNMP, please download the SNMP software and manage to receive the camera information via the SNMP port. By setting the Trap Address, the camera can send the alarm event and exception messages to the surveillance center. The SNMP version you select should be the same as that of the SNMP software.

1. In the **Network** folder, click the **SNMP** tab to open its window.
2. Select the corresponding version of SNMP: v1, v2c or v3.
3. Configure the SNMP settings. The configuration of the SNMP software should be the same as the settings you configure here.
4. Click **Save** to save changes.

To define the 802.1x parameters:

Note: The switch or router to which the camera is connected must also support the IEEE 802.1X standard, and a server must be configured. Please apply and register a user name and password for 802.1X in the server.

1. In the **Network** folder, click the **802.1X** tab to open its window.
2. Check **Enable IEEE 802.1X** to enable the feature.
3. Configure the 802.1X settings, including EAPOL version, user name, and password. The EAPOL version must be identical with that of the router or the switch.
4. Click **Save** to save changes.

To define the QoS parameters:

1. In the **Network** folder, click the **QoS** tab to open its window.
2. Configure the QoS settings, including Video / Audio DSCP, Event / Alarm DSCP and Management DSCP. The valid value range of the DSCP is 0-63. The bigger the DSCP value is the higher the priority is.
3. Click **Save** to save changes.

To define the FTP parameters:

1. In the **Network** folder click the **FTP** tab to open its window.
2. Configure the FTP settings, including server address, port, user name, password, directory, and upload type.

   Directory: In the Directory Structure field, you can select the root directory, parent directory and child directory. When the parent directory is selected, you have the option to use the Device Name, Device Number or Device IP for the name of the directory; and when the child directory is selected, you can use the Camera Name or Camera No. as the name of the directory.

   Upload type: To enable uploading the snapshots to the FTP server.
3. Click **Save** to save changes.

To define the UPnP parameters:

1. In the **Network** folder click the **UPnP** tab to open its window.
2. Check the checkbox to enable the UPnP function. The name of the device when detected online can be edited.
3. Check the **Port Mapping**, and select Auto or Manual mode to modify the port number.
4. Click **Save** to save changes.

To set up the Email parameters:

1. In the **Network** folder, click the **Email** tab to open its window.
2. Configure the following settings:

   Sender: The name of the email sender.

   Sender's Address: The email address of the sender.

   SMTP Server: The SMTP Server IP address or host name.

   SMTP Port: The SMTP port. The default is 25.

   Enable SSL: Check the checkbox to enable SSL if it is required by the SMTP server.

   Attached Image: Check the checkbox of **Attached Image** if you want to send emails with attached alarm images.

   I**nterval:** This is the time between two actions of sending attached images.

   Authentication: If your email server requires authentication, check this checkbox to use authentication to log in to this server. Enter the login user name and password.

   Receiver: The name of the user to be notified.

   Receiver's Address: The email address of user to be notified.
3. Click **Save** to save changes.

Recording parameters

You can adjust the video and audio recording parameters to obtain the picture quality and file size best suited to your needs. Figure 5 and Table 5 below list the video and audio recording options you can configure for the camera.

Figure 5: Video/Audio Settings menu (Video tab shown)

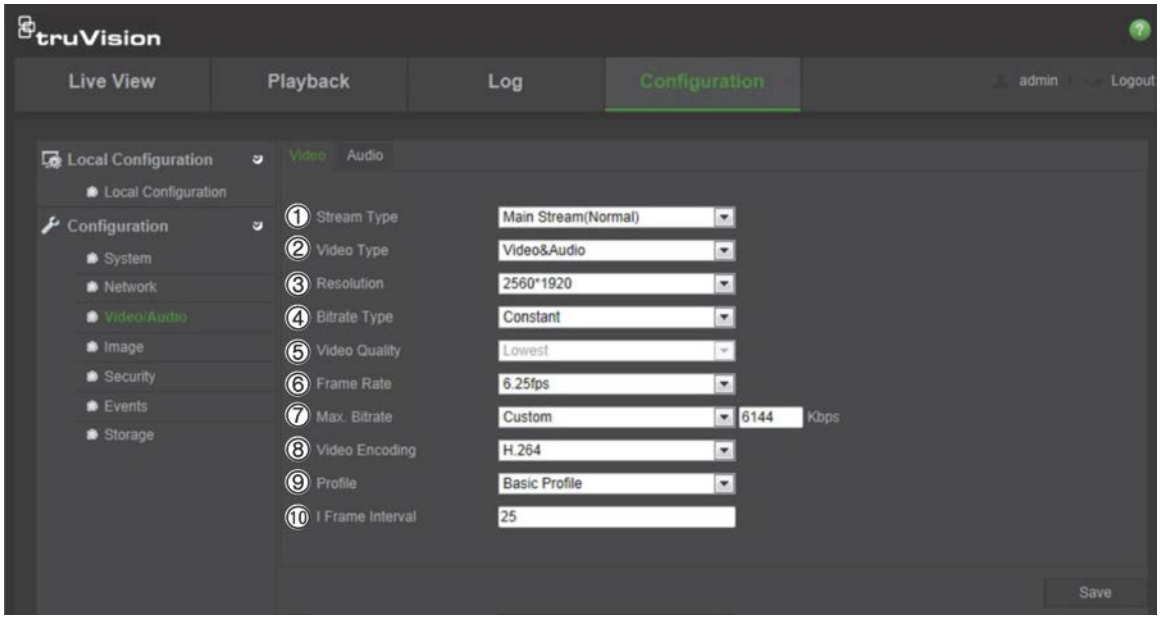


Table 5: Video setting parameters

No.	Parameter	Description
1.	Stream Type	Specifies the dual streaming method used. Options include: Main Stream (Normal) and Sub Stream. **Note**: Video&Audio is only available for those camera models that support audio.
2.	Video Type	Specifies the stream type you wish to record. Select Video Stream to record video stream only. Select Video&Audio to record both video and audio streams,
3.	Resolution	Specifies the recording resolution. A higher image resolution provides a higher image quality but also requires a higher bit rate. The resolution options listed depend on the type of camera and on whether main or sub stream is being used. **Note**: Resolutions can vary depending on the camera model.
4.	Bitrate Type	Specifies whether variable or fixed bit rate is used. Variable produces higher quality results suitable for video downloads and streaming. Default is Constant.
5.	Video Quality	Specifies the quality level of the image. It can be set when variable bit rate is selected. Options include: Lowest, Lower, Medium, Higher, and Highest.

No.	Parameter	Description
6.	Frame Rate	Specifies the frame rate for the selected resolution. The frame rate is the number of video frames that are shown or sent per second. **Note**: The maximum frame rate depends on the camera model and selected resolution. Please check the camera specifications in its datasheet.
7.	Max bit rate	Specifies the maximum allowed bit rate. A high image resolution requires that a high bit rate must also be selected. Options include: 32, 48, 64, 80, 96, 128, 160, 192, 224, 256, 320, 384, 448, 512, 640, 768, 896, 1024, 1536, 1792, 2048, 3072, 4096, 8192, 16384 and Custom (enter a value manually). **Note**: SD camera and sub stream of all models only support up to 8192Kbps.
8.	Video Encoding	Specifies the video encoder used.
9.	Profile	Different profile indicates different tools and technologies used in compression. Options include: High Profile, Main Profile and Basic Profile.
10.	I-frame Interval	A video compression method. It is strongly recommended not to change the default value 50. The TruVision IP opend standard camera has a default value of 25.

Video image

You may need to adjust the camera image depending on the camera model or location background in order to get the best image quality. You can adjust the brightness, contrast, saturation, hue, and sharpness of the video image. See Figure 6 below.

Use this menu to also adjust camera behavior parameters such as exposure time, iris mode, video standard, day/night mode, image flip, WDR, digital noise reduction, white balance, and indoor/outdoor mode. See Figure 6 and Table 6 below for more information.

Figure 6: Camera image settings menu

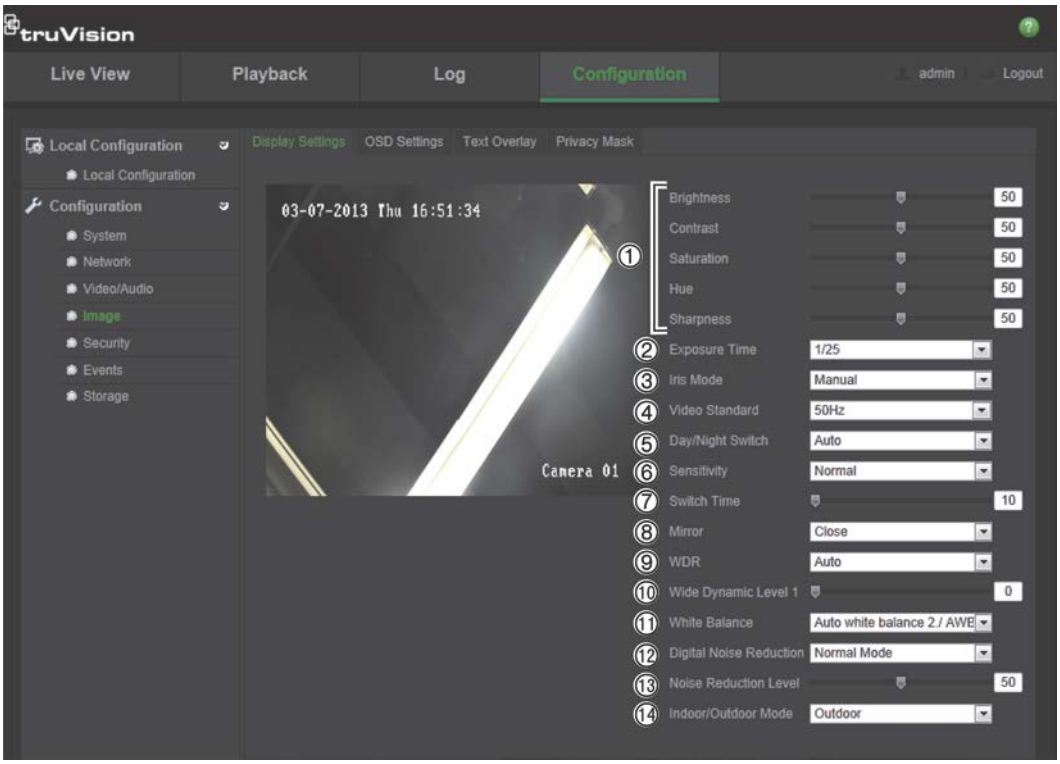


Table 6: Image parameters

No.	Parameter	Description
1.	Brightness, Contrast Saturation, Hue, Sharpness	Modifies the different elements of picture quality by adjusting the position of the values for each of parameter.
2.	Exposure Time	The exposure time controls the length of time that the aperture is open to let light into the camera through the lens. Select a higher value if the image is dark and a lower value to see fast moving object.
3.	Iris Mode	There are two settings, Auto and Manual. The type of lens determines which setting is used.
4.	Video Standard	The camera cannot auto-sense the power supply. Select 50 Hz (PAL) or 60 Hz (NTSC) depending on your region.
5.	Day/Night Switch	Defines whether the camera is in day or night mode. The day (color) option could be used, for example, if the camera is located indoors where light levels are always good. Options: **Day**: Camera is always in day mode. **Night**: Camera is always in night mode. **Auto**: The camera automatically detects which mode to use. Default is Auto.
6.	Sensitivity	Adjusts the sensitivity of the camera from night to day. Options: Low, Normal, or High. Default is Normal.
7.	Switch Time	Adjusts the delay time of day/night switch.

No.	Parameter	Description
8.	Mirror	Use this function to flip the original image into a mirror image. This could be used, for example, when the camera needs to be installed upside down. The image can be flipped horizontally (up/down), vertically (right/left) or centered. Default is Close. **Note**: The on-screen text does not flip.
9.	WDR	When enabled, this feature (wide dynamic range) allows you to see details of objects in shadows or details of objects in bright areas of frames that have high contrast between light and dark areas. Options: Disable, Enable, and Auto. **Note**: WDR option is disabled for Non-WDR camera model.
10.	Wide Dynamic Level 1	Adjusts the WDR level. Set a high value if the backlight is too strong.
11.	White Balance	White balance (WB) tells the camera what the color white looks like. Based on this information, the camera will then continue to display all colors correctly even when the color temperature of the scene changes such as from daylight to fluorescent lighting, for example. Select one of the options: **Auto**: White balance is determined automatically. **Auto white balance 1/AWB1**: Adjusts the value within a narrow range between 2500 and 9500K. For use in simple environments. **Auto white balance 2/AWB2**: Adjusts the value within a wide range between 2200 and 15000K. For use in complex environments. **MWB:** Manually adjust the color temperature to meet your own requirements. **Locked WB:** Locks the WB to the current environment color temperature. **Incandescent Lamp:** For use with incandescent lighting. **Warm Light Lamp:** For use where the indoor light is warm. **Natural Light:** For use with natural light. **Fluorescent Lamp:** For use where there are fluorescent lamps installed near the camera. **Note:** Options can vary depending on the camera models.
12.	Digital Noise Reduction	DNR reduces noise especially in low light conditions to improve image performance. Options: Normal Mode, or Expert Mode.
13.	Noise Reduction Level	Set the level of noise reduction in the Normal Mode. Higher value has a stronger noise reduction. Default is 50.
14.	Indoor/Outdoor Mode	Select appropriate mode according to the actual environment. **Indoor**: Lock the exposure time. **Outdoor**: Adjust the exposure time to prevent iris too small in the strong light.

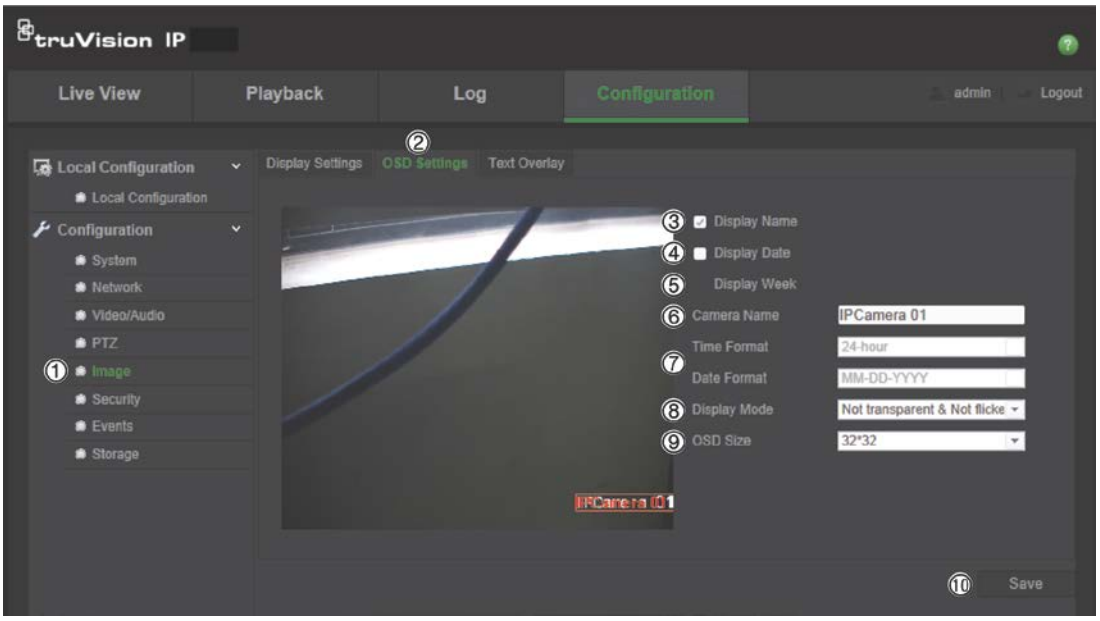
Note: Not all camera models support all these parameter settings.

OSD

In addition to the camera name, the camera also displays the system date and time on screen. You can also define how the text appears on screen.

To position the date/time and name on screen:

1. In the **Image** folder (1), click the **OSD Settings** tab (2) to open its window.



2. Check the **Display Name** box (3) to display the camera's name on screen. You can modify the default name in the text box of **Camera Name**.
3. Check the **Display Date** box (4) to display the date/time on screen.
4. Check the **Display Week** box (5) to include the day of the week in the on-screen display.
5. In the **Camera Name** box (6), enter the camera name.
6. Select the time and date formats from the **Time format** and **Date format** list boxes (7).
7. Select a display mode for the camera from the **Display Mode** list box (8). Display modes include:
   - **Transparent & Not flickering**. The image appears through the text.
   - **Transparent & Flickering**. **T**he image appears through the text. The text flashes on and off.
   - **Not transparent & Not flickering**. The image is behind the text. This is default.
   - **Not transparent & Flickering**. The image is behind the text. The text flashes on and off.
8. Select the OSD size that you want (9).
9. Click **Save** to save changes (10).

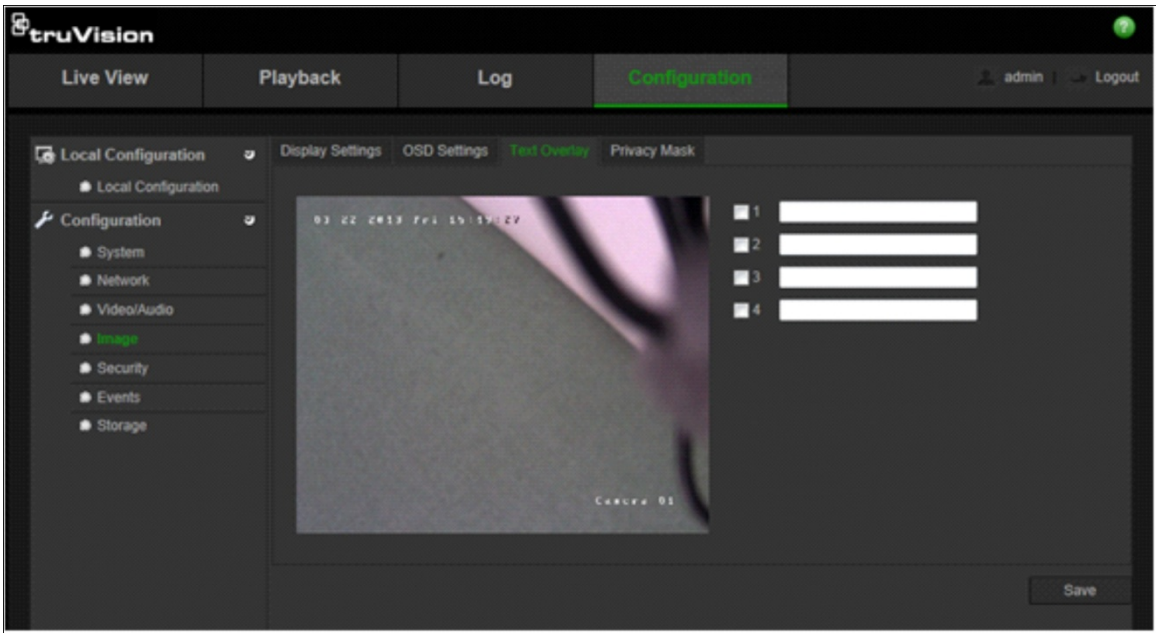
Note:

1. If you set the display mode as transparent, the text varies according the background. With some backgrounds, the text may be not easily readable.
2. When you enable motion detection, it is recommended not to select the flickering display option as overlay text may trigger a motion alarm.

Overlay text

You can add up to four lines of text on screen. This option can be used, for example, to display emergency contact details. Each text line can be positioned anywhere on screen. See Figure 7 below.

Figure 7: Text overlay menu



To add on-screen text:

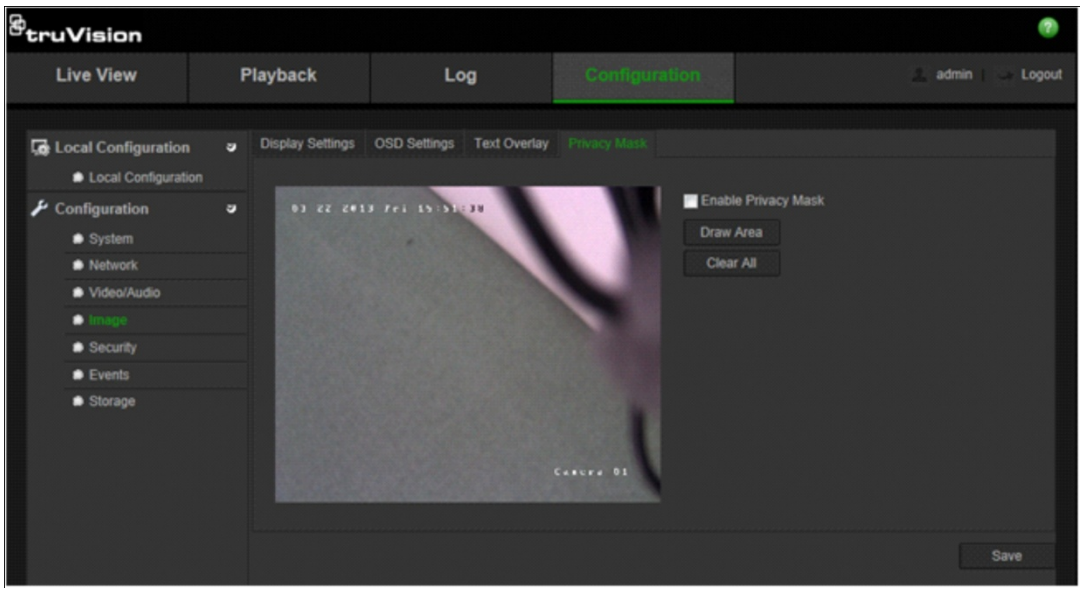
1. In the **Image** folder, click the **Text Overlay** tab to open its window.
2. Check the box for the first line of text.
3. Enter the text in the text box.
4. Use the mouse to click and drag the red text in the live view window to adjust the text overlay position.
5. Repeat steps 2 to 4 for each extra line of text, selecting the next string number.
6. Click **Save** to save changes.

Privacy masks

Privacy masks let you conceal sensitive areas (such as neighboring windows) to protect them from view on the monitor screen and in the recorded video. The masking appears as a blank area on screen. You can create up to four privacy masks per camera.

Note: There may be a small difference in size of the privacy mask area depending on whether local output or the web browser is used.

Figure 8: Privacy mask menu



To add privacy mask area:

1. In the **Image** folder, click the **Privacy Mask** tab to open its window.
2. Check the **Enable Privacy Mask**.
3. Click **Draw Area**.
4. Click and drag the mouse in the live video window to draw the mask area.

   Note: You are allowed to draw up to 4 areas on the same image.
5. Click **Stop Drawing** to finish drawing, or click **Clear All** to clear all of the areas you set without saving them.
6. Click **Save** to save changes.

Motion detection alarms

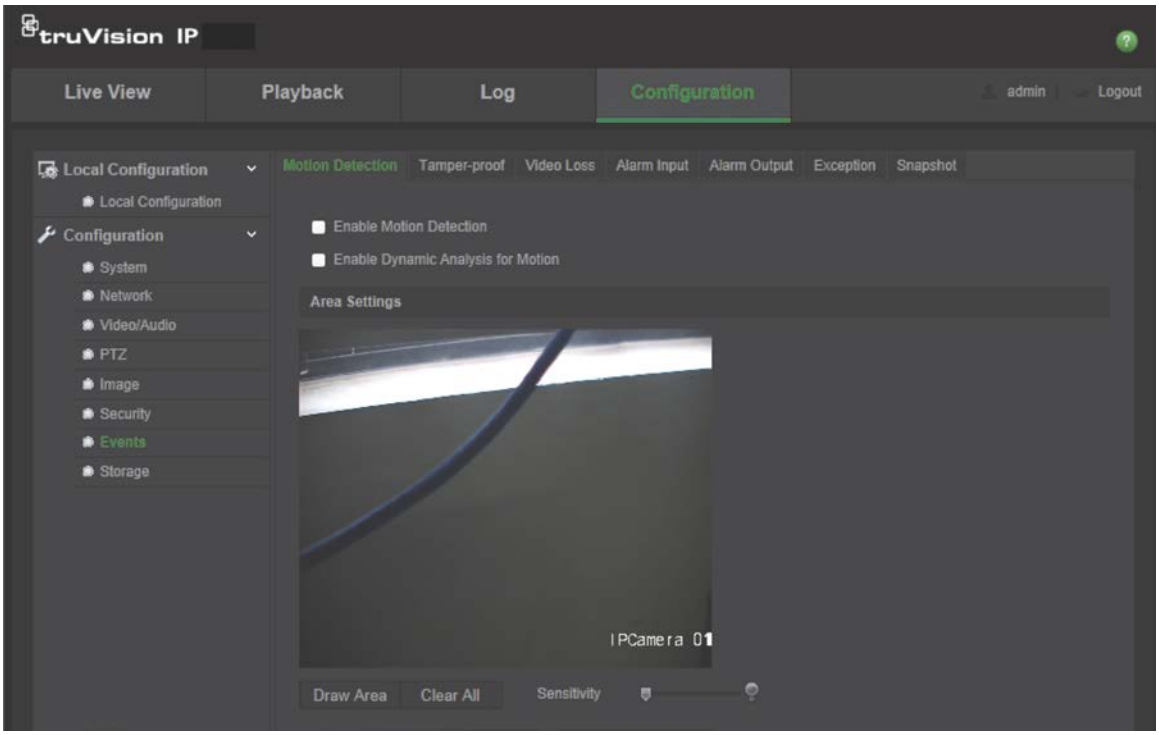
You can define motion detection alarms. A motion detection alarm refers to an alarm triggered when the camera detects motion. However, the motion alarm is only triggered if it occurs during a programmed time schedule.

Select the level of sensitivity to motion as well as the target size so that only objects that could be of interest can trigger a motion recording. For example, the motion recording is triggered by the movement of a person but not that of a cat.

You can define the area on screen where the motion is detected, the level of sensitivity to motion, the schedule when the camera is sensitive to detecting motion as well as which methods are used to alert you to a motion detection alarm.

You can also enable dynamic analysis for motion. When there is motion, the area will be highlighted as green.

Figure 9: Motion detection menu



Defining a motion detection alarm requires the following tasks:

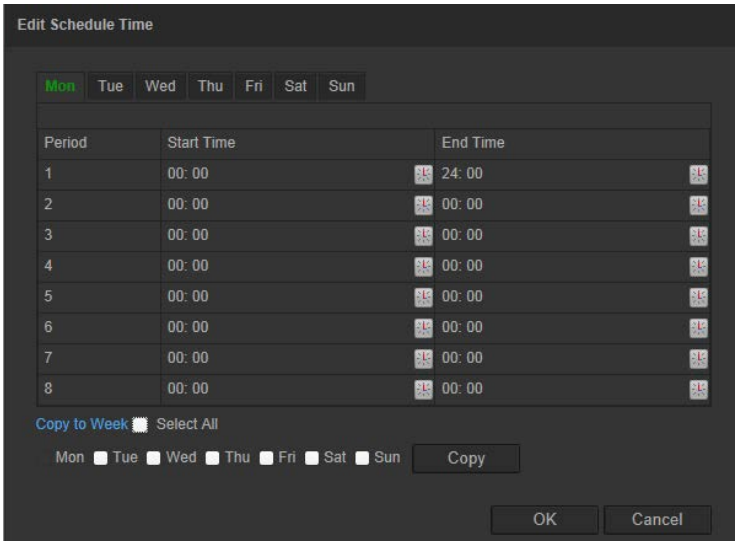
1. **Area Settings**: Define the on-screen area that can trigger a motion detection alarm and the detection sensitivity level.
2. **Arming Schedule**: Define the schedule during which the system detects motion.
3. **Recording schedule**: Define the schedule during which motion detection can be recorded. See “Recording schedule” on page 30 for further information.
4. **Linkage**: Specify the method of response to the alarm.

To set up motion detection:

1. In the **Configuration > Events** folder, click the **Motion Detection** tab to open its window.
2. Check the **Enable Motion Detection** box. Check **Enable dynamic analysis for motion** if you want to see where has motion real-time.

   Note: Deselect the “Enable Motion Detection” option to disable the motion detection alarm.
3. Click **Draw Area**. Click and drag the mouse on the live video image to draw an area sensitive to motion detection.

   Note: You can draw up to 8 motion detection areas on the same image.
4. Click **Stop Drawing** to finish drawing. Click **Clear All** to delete all areas marked and restart drawing.
5. Move the **Sensitivity** slider to set the sensitivity of the detection. All areas will have the same sensitivity level.
6. Click **Edit** to edit the arming schedule. See the picture below for the editing interface of the arming schedule.



7. Choose the day and click to set the detailed time period. You can copy the schedule to other days.
8. Click **OK** to save changes.
9. Specify the linkage method when an event occurs. Check one or more response methods for the system when a motion detection alarm is triggered.

Notify Alarm Host	Send an exception or alarm signal to remote management software when an event occurs.
Send Email	Sends an email to a specified address when there is a motion detection alarm.
Upload Snapshot	Capture the image when an alarm is triggered and upload the picture to NAS or FTP server.

Trigger Channel	Triggers the recording to start in the camera.
Trigger Alarm Output	Trigger external alarm outputs when an event occurs. **Note:** This option is only supported by cameras that support alarm output.

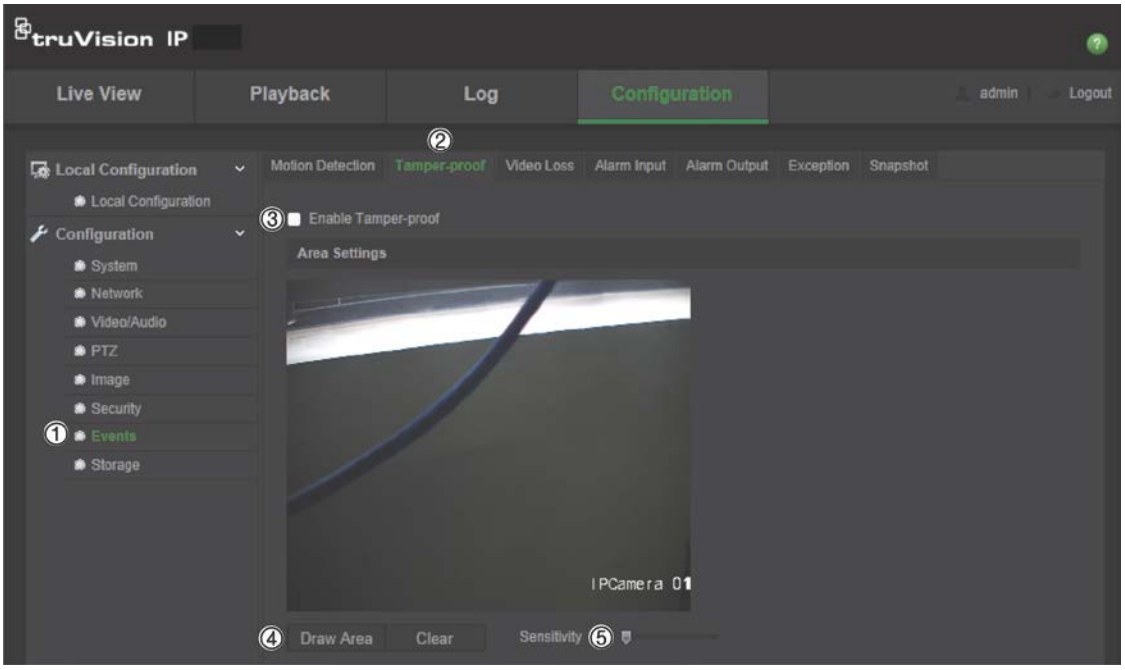
10. Click **Save** to save changes.

Tamper-proof alarms

You can configure the camera to trigger an alarm when the lens is covered and to take an alarm response action.

To set up tamper-proof alarms:

1. In the **Events** folder (1), click the **Tamper-proof** tab (2) to open its window.



2. Check the **Enable Tamper-proof** box (3).
3. Click **Draw Area** (4). Click and drag the mouse on the live video image to draw a tamper-proof area.
4. Click **Stop Drawing** to finish drawing. Click **Clear All** to delete all areas marked and restart drawing.
5. Move the **Sensitivity** slider (5) to set the sensitivity of the detection.

   All areas will have the same sensitivity level.
6. Click **Edit** to edit the arming schedule for tamper-proof alarms. The arming schedule configuration is the same as that for motion detection. See “To set up motion detection” for more information.
7. Check the checkbox to select the linkage method taken for the tamper-proof.

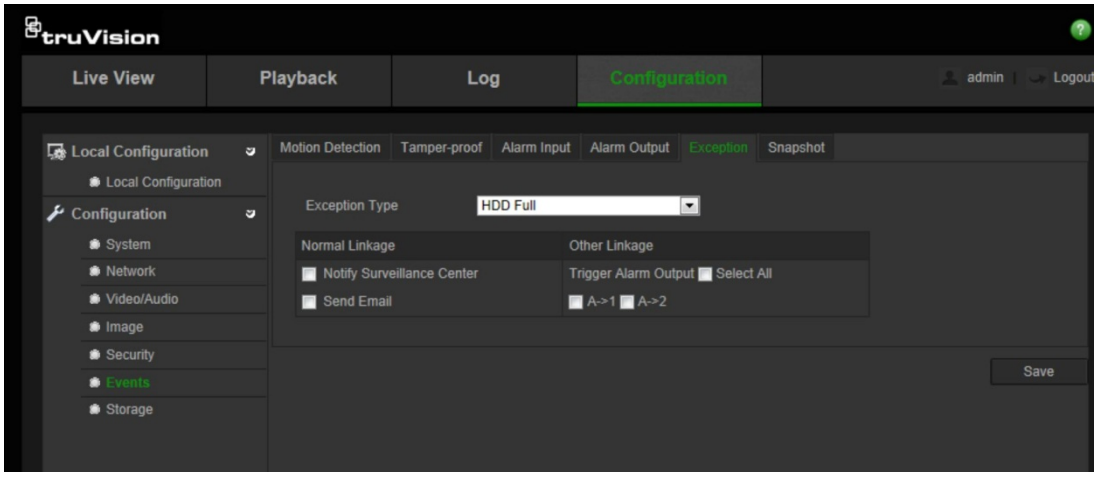
8. Click **Save** to save changes.

Exception alarms

You can set up the camera to notify you when irregular events occur and how you should be notified. These exception alarms include:

- **HDD Full:** All recording space of NAS is full.
- **HDD Error:** Errors occurred while files were being written to the storage, no storage or storage had failed to initialize.
- **Network Disconnected:** Disconnected network cable.
- **IP Address Conflicted:** Conflict in IP address setting.
- **Illegal Login:** Wrong user ID or password used to login to the cameras.

Figure 10: Exception menu



To define exception alarms:

1. In the **Events** folder, click the **Exception** tab to open its window.
2. Under **Exception Type**, select an exception type from the drop-down list.
3. Check the checkbox to select the linkage method.
4. Click **Save** to save changes.

Alarm inputs and outputs

To define the external alarm input:

1. In the **Events** folder, click the **Alarm Input** tab to open its window.
2. Choose the **Alarm Input No.** and the **Alarm Type**. The alarm type can be NO (Normally Open) and NC (Normally Closed). Enter a name for the alarm input.

3. Click **Edit** to set the arming schedule for the alarm input. See “To set up motion detection” for more information.
4. Check the checkbox to select the linkage method.
5. Click **Save** to save changes.

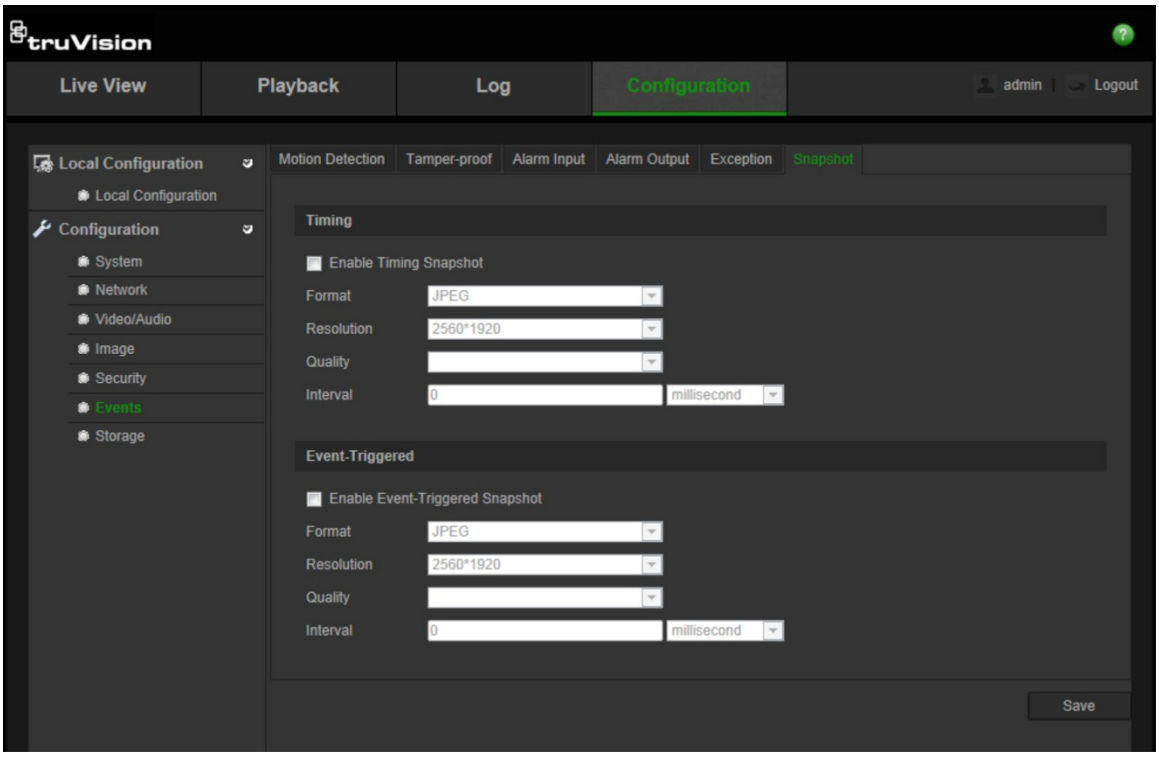
To define alarm output:

1. In the **Events** folder, click the **Alarm Output** tab to open its window.
2. Select one alarm output channel from the **Alarm Output** drop-down list. You can also set a name for the alarm output.
3. The delay time can be set to 5sec, 10sec, 30sec, 1min, 2min, 5min or 10min. The delay time refers to the time duration that the alarm output remains in effect after alarm occurs.
4. Click **Edit** to set the arming schedule for the alarm input. See “To set up motion detection” for more information.
5. Click **Save** to save changes.

Snapshot parameters

You can configure scheduled snapshots and event-triggered snapshots. The captured snapshots can be stored in the SD card (if supported) or the NAS. You can also upload the snapshots to an FTP server.

Figure 11: Snapshot menu



Note: If you have configured the FTP settings and check **Upload Picture** in the FTP tab, the snapshots will be uploaded to the FTP. If you also check **Upload Snapshot** for motion detection or alarm input, the snapshots will be uploaded to the FTP when motion detection or an alarm input is triggered.

To set up snapshots:

1. In the **Events** folder, click the **Snapshot** tab to open its window.
2. Check **Enable Timing Snapshot** to enable continuous snapshots. Check the **Enable Event-triggered Snapshot** to enable event-triggered snapshots.
3. Select the desired quality of the snapshot.
4. Set the time interval between two snapshots.
5. Click **Save** to save changes.

NAS settings

You can use a network storage system (NAS) to remotely store recordings

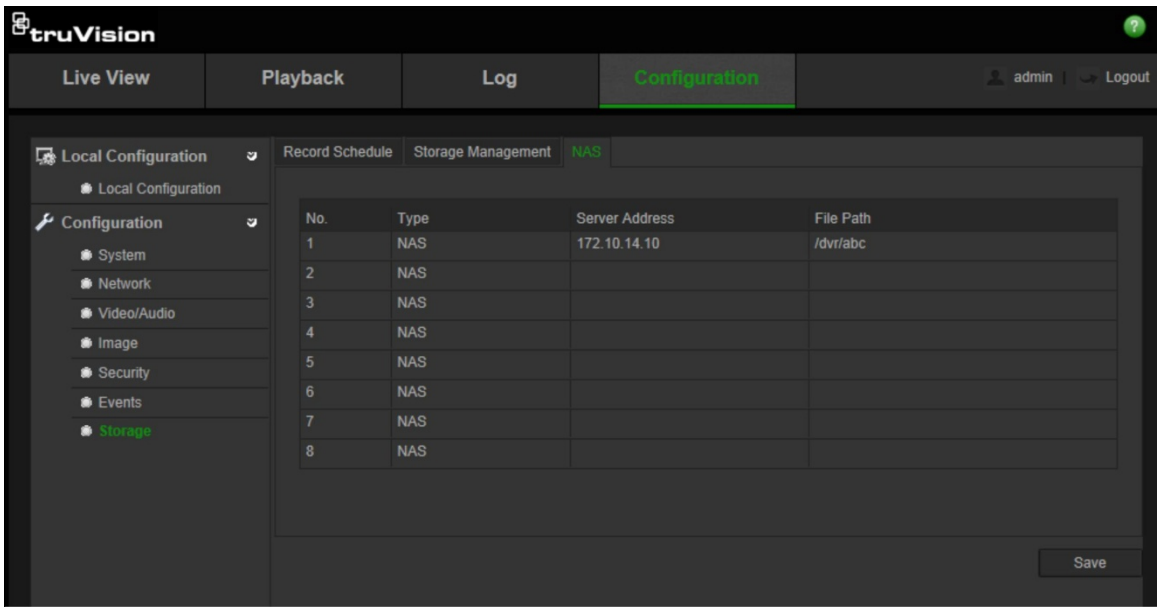
To configure record settings, please ensure that you have the network storage device within the network.

The NAS disk should be available within the network and correctly configured to store the recorded files, log files, etc.

Notes:

1. Up to eight NAS disks can be connected to the camera.
2. The recommended capacity of NAS should be between 9G and 2T as otherwise it may cause formatting failure.

Figure 12: NAS menu



To set up a NAS system:

1. In the **Storage** folder, click the **NAS** tab to open its window.
2. Enter the IP address of the network disk, and the NAS folder path.
3. Click **Save** to save changes.

Storage devices

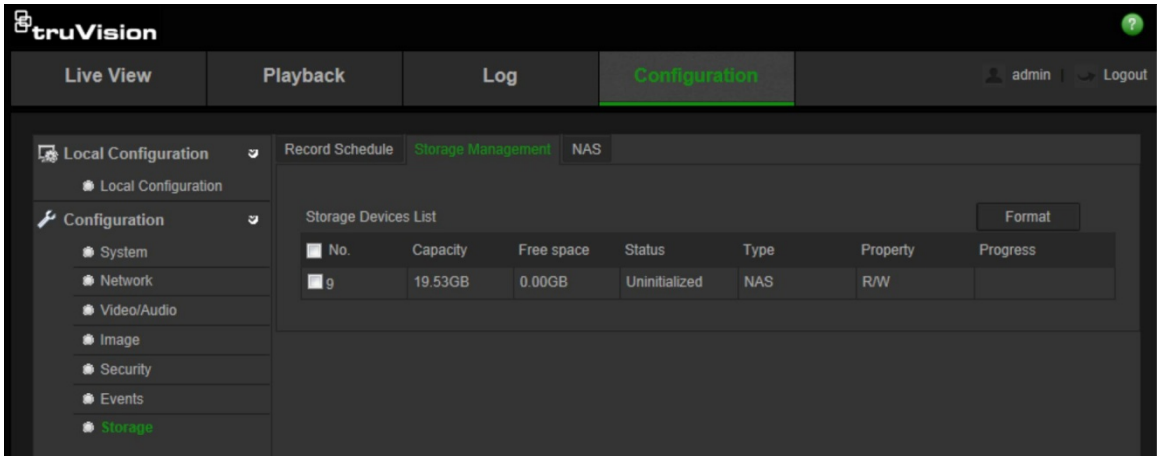
Use the storage management window to display the capacity, free space available and the working status of the HDD of the NAS and the SD card in the camera. You can also format these storage devices.

Before formatting the storage device, stop all recording. Once formatting is completed, reboot the camera as otherwise the device will not function properly.

If Overwrite is enabled, the oldest files are overwritten when the storage becomes full.

To format the storage devices:

1. Click the **Storage Management** folder to open its window.



2. Check the HDD Number column to select the storage.
3. Click **Format**. A window appears to check your formatting permission.
4. Click **OK** to start formatting.

Recording schedule

You can define a recording schedule for the camera in the “Record Schedule” window. The recording is saved on to the SD card or NAS in the camera. The camera’s SD card provides a backup in case of network failure.

The selected recording schedule applies to all alarm types.

Pre-record time

The pre- record time is set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the camera starts to record at 9:59:55. The pre-record time can be configured as No Pre-record, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s, or not limited.

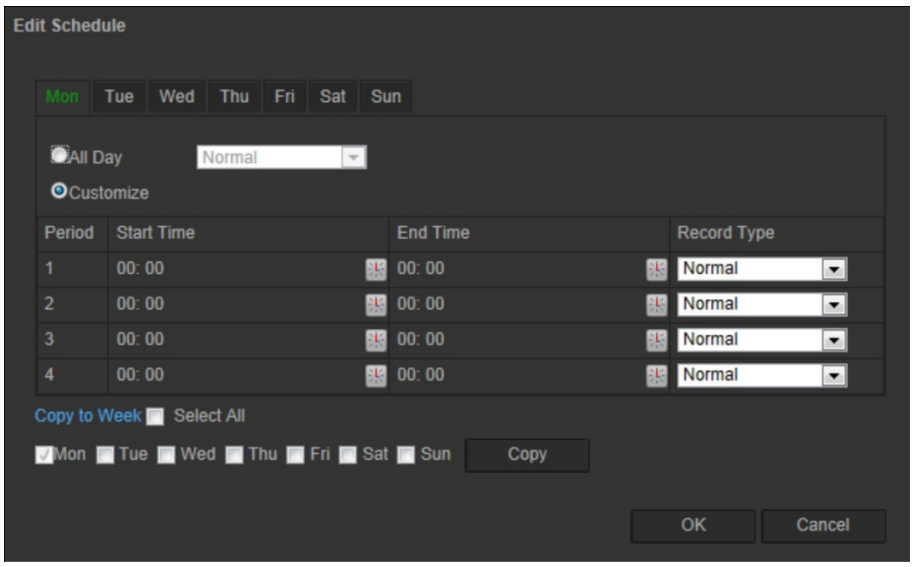
Post- record time

The post-record time is set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the camera records until 11:00:05. The post-record time can be configured as 5 s, 10 s, 30 s, 1 min, 2 min, 5 min, or 10 min.

To set up a recording schedule:

1. In the **Storage** folder, click the **Record Schedule** tab to open its window.
2. Click the **Enable Record Schedule** box to enable recording.

   Note: To disable recording, deselect the option.
3. Click **Edit** to edit the recording schedule. The following window appears:



4. Select whether the recording will be for the whole week (**All Day** recording) or for specific days of the week.

   If you have selected “All day”, select one of the record types to record from the drop-down list box:

   - **Normal**: This is continuous recording.
   - **Motion detection:** The video is recorded when the motion is detected.
   - **Alarm:** The video is recorded when the alarm is triggered via the external alarm input.
   - **Motion | Alarm:** The video is recorded when the external alarm is triggered or the motion is detected.

- **Motion & Alarm:** The video is recorded when motion and alarms are triggered at the same time.

5. If you selected “Customize”, click the day of the week required and then for period 1 set the start and end times during which you want the camera to begin and end recording.

   From the drop-down list box, select one of the record types to record.

   Repeat for additional periods in the day. Up to four time periods can be selected.

   Note: The four time periods cannot overlap.

6. Set the recording periods for the other days of the week if required.

   Click **Copy** to copy the recording periods to another day of the week.

7. Click **OK** and **Save** to save changes.

Note: If you set the record type to “Motion detection” or “Alarm”, you must also define the arming schedule in order to trigger motion detection or alarm input recording.

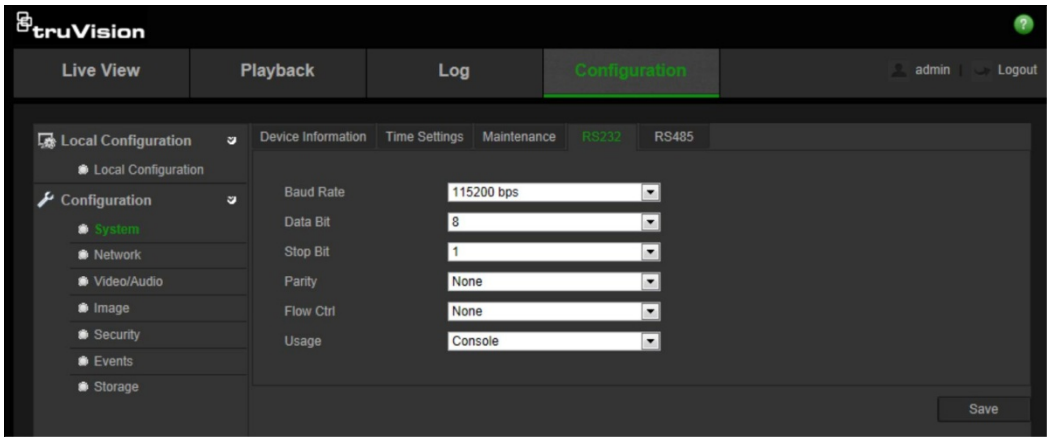
RS-232 settings

The RS-232 port can be used in two ways:

- **Parameters configuration**: Connect a computer to the camera through the serial port. Device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the serial port parameters of the camera.
- **Transparent channel**: Connect a serial device directly to the camera. The serial device will be controlled remotely by the computer through the network.

To set up the RS-232 settings:

1. In the **System** folder, click the **RS232** tab to open its window.
2. Select the RS-232 port parameters.



Note: If you want to connect the camera using the RS-232 port, the RS-232 parameters must be the same as those configured here.

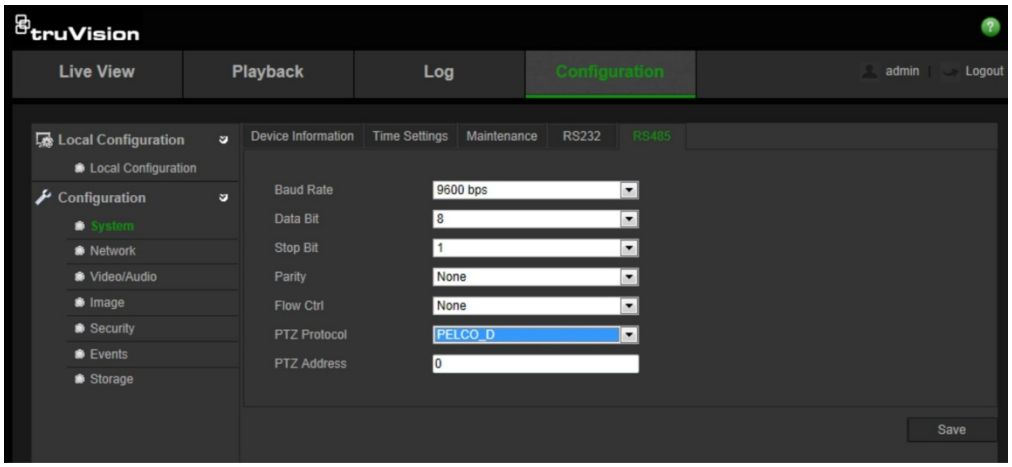
3. Click **Save** to save changes.

RS-485 settings

The RS-485 serial port is used to control the PTZ of the camera or connect to light and wiper devices. Configuration of these parameters should be done before you connect to any devices.

To set up RS-485 settings:

1. In the System folder, click the **RS485** tab to open its window.
2. Select the RS-485 port parameters.



Note: The Baud Rate, PTZ Protocol, and PTZ Address parameters should be exactly the same as the PTZ camera parameters.

3. Click **Save** to save changes.

: Camera configuration

Chapter 4
Camera management

This chapter describes how to use the camera once it is installed and configured. The camera is accessed through a web browser.

User management

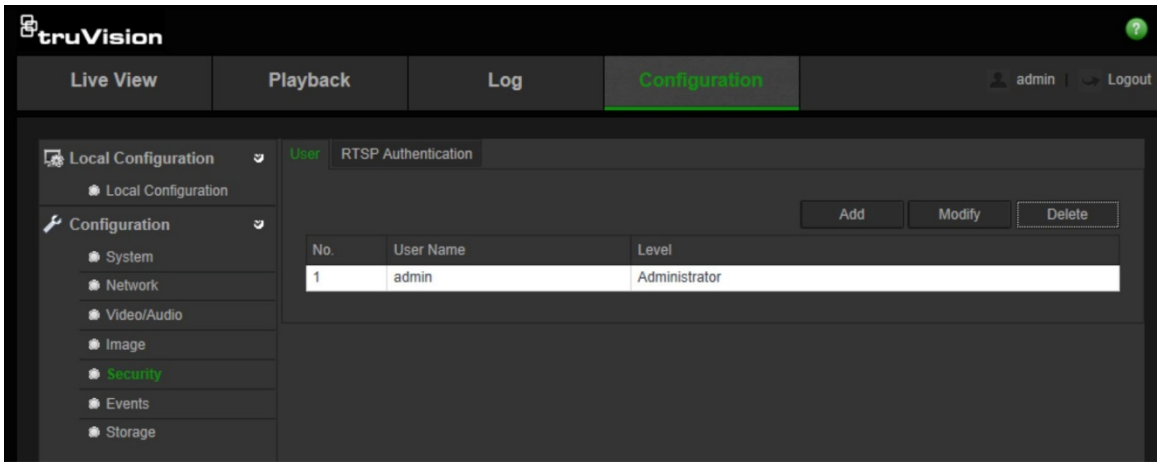
This section describes how to manage users. You can:

- Add or delete users
- Modify permission
- Modify passwords

Only the administrator can manage users. The administrator can create up to 31 individual users for the cameras listed in this manual. For TruVision IP open standard cameras, the administrator can create up to 15 individual users.

When new users are added to the list, the administrator can modify permissions and password of each user. See Figure 13 below.

Figure 13: User management window



Passwords limit access to the camera and the same password can be used by several users. When creating a new user, you must give the user a password.

There is no default password provided for all users. Users can not modify their password, and only the administrator can create or modify password for a user.

Note: Keep the admin password in a safe place. If you forget it, please contact technical support.

Types of users

A user's access privileges to the system are automatically defined by their user type. There are three types of user:

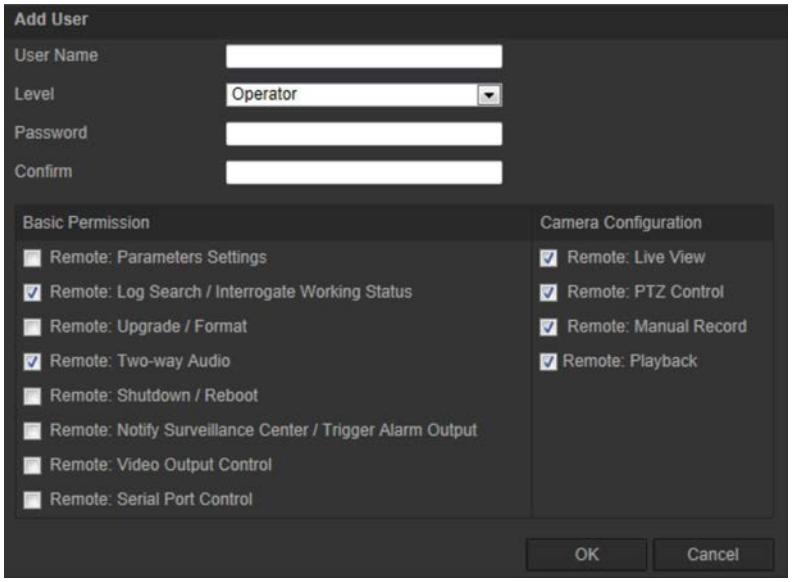
- **Admin**: This is the system administrator. The administrator can configure all settings. Only the administrator can create and delete user accounts. Admin cannot be deleted.
- **Operator**: This user can only change the configuration of his/her own account. An operator cannot create or delete other users.
- **Viewer**: This user has the permission of live view, playback and log search. However, they cannot change any configuration settings.

Add and delete users

The administrator can create up to 15 users. Only the system administrator can create or delete users.

To add a user:

1. Click the **User** folder to open its window.
2. Select the **Add** button. The user management window appears.



3. Enter a user name. The name can have up to 16 alphanumeric characters.
4. Assign the user a password. Passwords can have up to 16 alphanumeric characters.

5. Select the type of user from the drop-down list. The options are Viewer and Operator.
6. Assign permissions to users.
7. Click **OK** to save the settings.

To delete a user:

1. Select one user in the **User** tab.
2. Click **Delete** button. A message box appears.

   Note: Only the administrator can delete a user.
3. Click Save to save the changes.

Modify user information

You can easily change the information about a user such as their name, password and permissions.

To modify user information:

1. Select one user in the **User** tab.
2. Click the **Modify** button. The user management window appears
3. Change the information required.

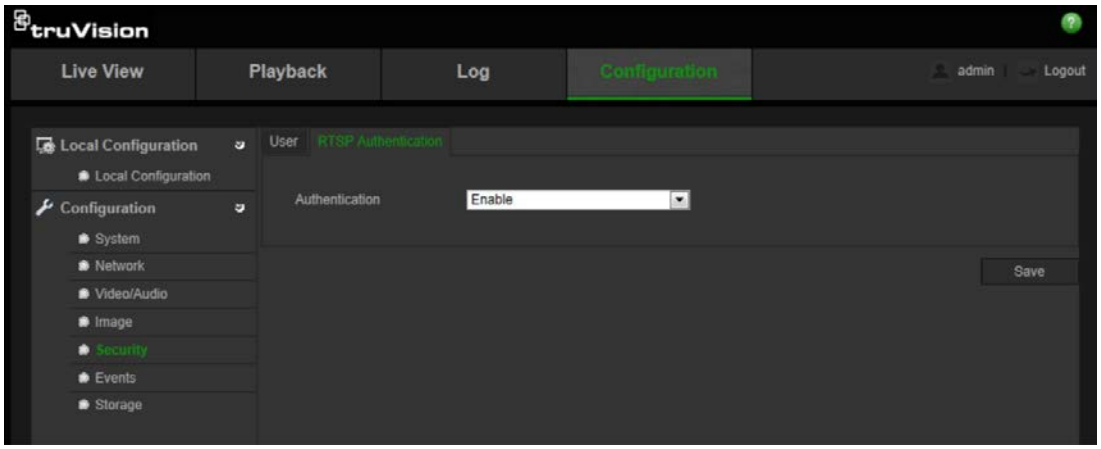
   Note: The user “Admin” can only be changed by entering the admin password.
4. Click **Save** to save the changes.

RTSP authentication

You can specifically secure the stream data of live view.

To define RTSP authentication:

1. In the Storage folder click the **Record Schedule** tab to open its window.



2. Select the **Authentication** type **Enable** or **Disable** in the drop-down list to enable or disable the RTSP authentication.
3. Click **Save** to save the changes.

Note: If "RTSP Authentication" is disabled, although the user has no permission for “Remote: Live View", he can still see the live view images.

IP address filter

This function makes it possible for access control.

To define IP Address Filter:

1. In the **Configuration** folder, select the **Security** tab.
2. Select the **IP Address Filter** tab.
3. Check the checkbox of **Enable IP Address Filter.**
4. Select the type of IP Address Filter in the drop-down list, **Forbidden** and **Allowed** are selectable.
5. Click **Add** to add an IP address.
6. Click **Modify** or **Delete** to modify or delete the selected IP address**.**
7. Click **Clear** to delete all the IP addrsses.
8. Click **Save** to save the changes.

Telnet

To define Telnet:

1. In the **Configuration** folder, select the **Security** tab.
2. Select the **Telnet** tab.
3. Check the checkbox of **Enable Telnet.**
4. Click **Save** to save the changes.

Restore default settings

Use the Default menu to restore default settings to the camera. There are two options available:

- **Restore:** Restore all the parameters, except the IP parameters, to the default settings.
- **Default:** Restore all the parameters to the default settings.

Note: Video standard cannot be restored to default settings no matter **Restore** **or** **Default**.

To restore default settings:

1. In the **Configuration** folder, select the **System** tab.
2. Select the **Maintenance** tab.
3. Click either **Restore** or **Default**. A window showing user authentication appears.
4. Enter the admin password and click OK.
5. Click **OK** in the pop-up message box to confirm restoring operation.

Import/export a configuration file

To import/export configuration file:

1. In the **Configuration** folder, select the **System** tab.
2. Select the **Maintenance** tab.
3. Click **Browse** to select the local configuration file and then click **Import** to start importing configuration file.
4. Click **Export** and set the saving path to save the configuration file.

Upgrade firmware

The camera firmware is stored in the flash memory. Use the upgrade function to write the firmware file into the flash memory.

You need to upgrade firmware when it has become outdated. When you upgrade the firmware, all existing settings are unchanged. Only the new features are added with their default settings.

To upgrade firmware version 3.X or 4.X to version 5.0.X:

1. Download on to your computer the latest firmware from our web site at:

   www.interlogix.com/video/product/truvision-ip-open-standards-outdoor-cameras/

   - Or -

   www.utcfssecurityproductspages.eu/videoupgrades/

2. When the firmware file is downloaded to your computer, extract the file to the desired destination.

   Note: Do not save the file on your desktop.

3. In the **Maintenance** tab, click the Browse button to locate the firmware file on your computer.

   Note: Please select utc_amb_ipc.dav for product models listed in Chapter 1 on page 1, and utc_365_ipc.dav for TruVision IP open standard cameras.

4. Click **Update**. You will receive a prompt asking you to reboot the camera.
6. The upgrading process will take several minutes. When the upgrade is finished, the device will reboot automatically.
5. After the device has rebooted, close the browser and login again.
6. In the **Configuration** folder, select the **System** tab.
7. Select the **Maintenance** tab.
8. Click the **Browse** button to locate the latest file on your computer.
9. Click **Update**. You will receive a prompt asking you to reboot the camera.

To upgrade firmware version 5.0.x to latest version:

1. Download on to your computer the latest firmware from our web site at:

   www.interlogix.com/video/product/truvision-ip-open-standards-outdoor-cameras/

   - Or -

   www.utcfssecurityproductspages.eu/videoupgrades/

2. When the firmware file is downloaded to your computer, extract the file to the desired destination.

   Note: Do not save the file on your desktop.

3. In the **Configuration** folder, select the **System** tab.
4. In the **Maintenance** tab, select the **Firmware** or **Firmware Directory** option. Then click the Browse button to locate latest firmware file on your computer.

   - **Firmware directory** – Locate the upgrading folder of Firmware files. The camera will choose the corresponding firmware file automatically.
   - **Firmware** – Locate the firmware file manually for the camera.

   Note: Please select utc_amb_ipc.dav for product models listed in Chapter 1 on page 1, and utc_365_ipc.dav for TruVision IP open standard cameras.

5. Click **Update**. You will receive a prompt asking you to reboot the camera.
6. When the upgrade is finished, the device will reboot automatically. The browser will also be refreshed.

Reboot camera

The camera can be easily rebooted remotely.

To reboot the camera through the web browser:

1. In the **Configuration** folder select the **System** tab.
2. Select the **Maintenance** tab.
3. Click the **Reboot** button to reboot the device.
4. Click **OK** in the pop-up message box to confirm reboot operation.

Chapter 5
Camera operation

This chapter describes how to use the camera once it is installed and configured.

Logging on and off

You can easily log out of the camera browser window by clicking the Logout button on the menu toolbar. You will be asked each time to enter your user name and password when logging in.

Figure 14: Login dialog box

Live view mode

Once logged in, click “Live View” on the menu toolbar to access live view mode. See Figure 1 on page 6 for the description of the interface.

Start/stop live view: You can stop and start live view by clicking the Start/stop live view button on the bottom of the window.

Record: You can record live video and stored it in the directory you have configured. In the live view window, click the **Record** button at the bottom of the window. To stop recording, click the button again.

Take a snapshot: You can take a snapshot of a scene when in live view. Simply click the **Capture** button located at the bottom of the window to save an image. The image is in JPEG format. Snapshots are saved on the hard drive.

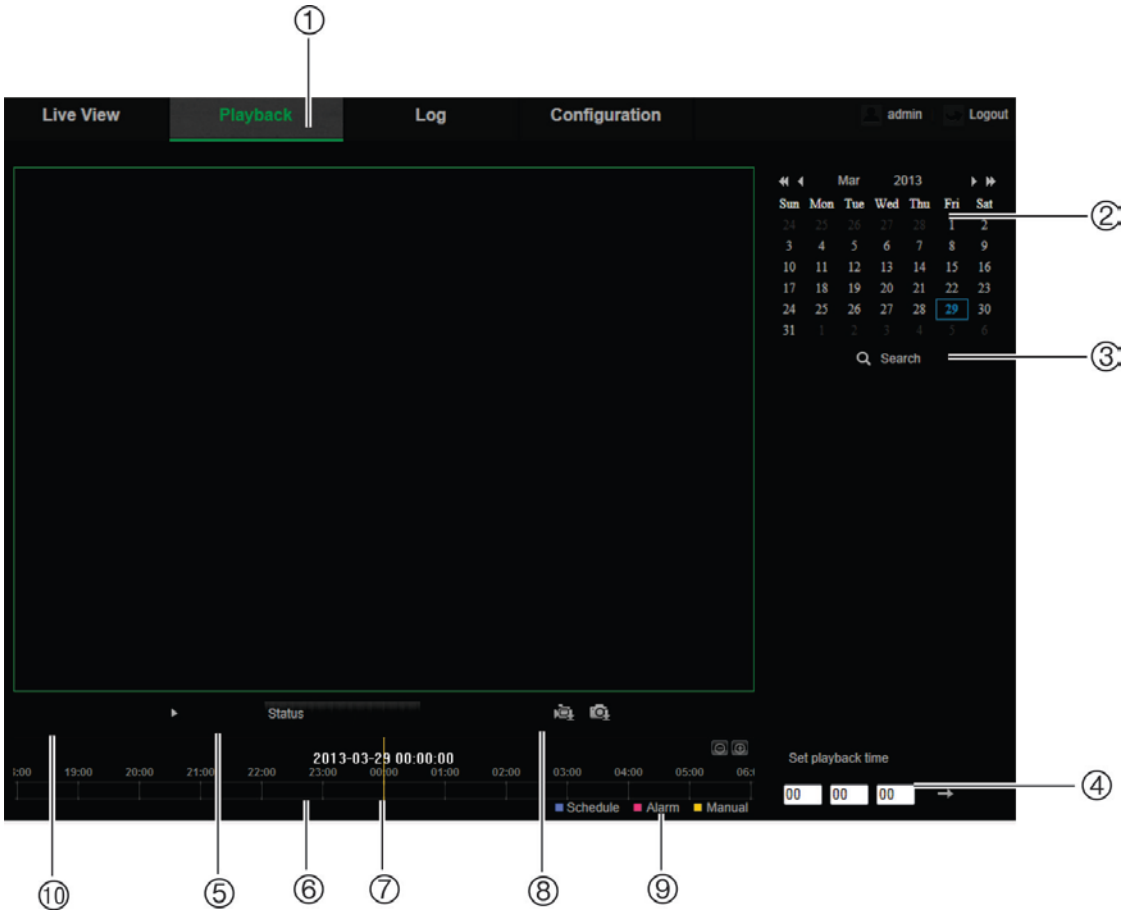
Playing back recorded video

You can easily search and play back recorded video in the playback interface.

Note: You must configure NAS or insert SD card in the dome camera to be able to use the playback functions.

To search recorded video stored on the camera's storage device for playback, click **Playback** on the menu toolbar. The Playback window displays. See Figure 15 on page 44.

Figure 15: Playback window



No.	Name	Description
1.	Playback button	Click to open the Playback window.
2.	Search calendar	Click the day required to search.
3.	Search	Start search.

No.	Name	Description
4.	Set playback time	Input the time and click to locate the playback point.
5.	Control playback	Click to control how the selected file is played back: play, stop, slow and fast forward playback.
6.	Timeline bar	The timeline bar displays the 24-hour period of the day being played back. It moves left (oldest) to right (newest). The bar is color-coded to display the type of recording. Click a location on the timeline to move the cursor to where you want playback to start. The timeline can also be scrolled to earlier or later periods for play back. Click to zoom out/in the timeline bar.
7.	Time moment	Vertical bar shows where you are in the playback recording. The current time and date are also displayed.
8.	Download functions	Download video files. Download captured images.
9.	Recording type	The color code displays the recording type. Recording types are schedule recording, alarms recording and manual recording. The recording type name is also displayed in the current status window.
10.	Archive functions	Click these buttons for the following archive actions: Capture a snapshot image of the playback video. Start/Stop clipping video files.

To play back recorded video

1. Select the date and click the **Search** button. The searched video is displayed in the timeline.
2. Click **Play** to start playback. While playing back a video, the timeline bar displays the type and time of the recording. The timeline can be manually scrolled using the mouse.

   Note: You must have playback permission to playback recorded images. See “Modify user information” on page 37 to archive recorded video files.
3. Select the date and click the **Search** button to search for the required recorded file.
4. Click to search the video file.
5. In the pop-up window, check the box of the video file and click **Download** to download the video files.

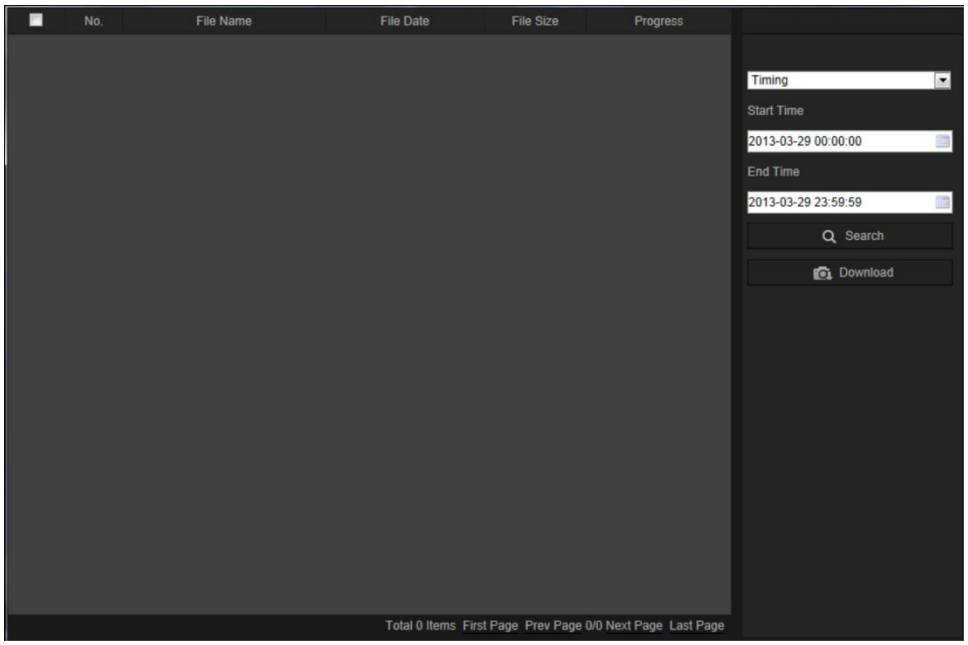
To archive a recorded video segment during playback:

1. While playing back a recorded file, click to start clipping. Click it again to stop clipping. A video segment is created.

2. Repeat step 1 to create additional segments. The video segments are saved on your computer.

To archive recorded snapshots:

1. Click to open the snapshots search window.



2. Select the snapshot type as well as the start and end time.
3. Click **Search** to search for the snapshots.
4. Select the desired snapshots, and click **Download** to download them.

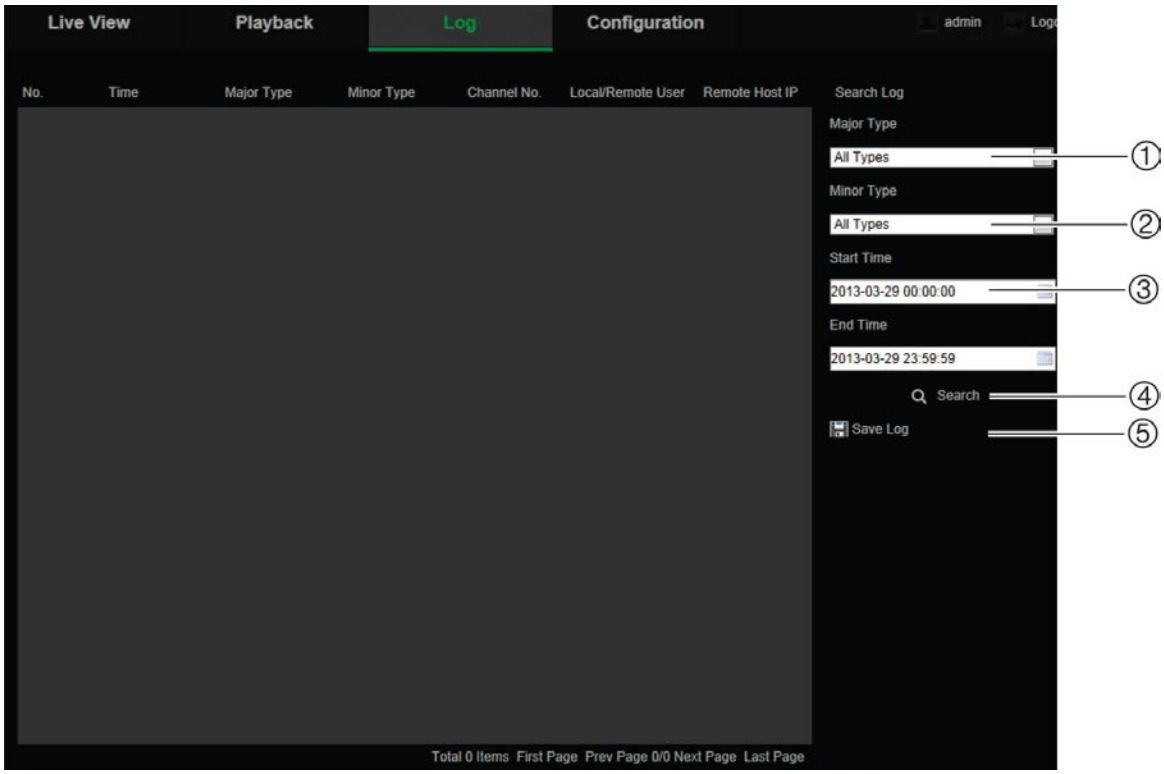
Searching event logs

You must configure NAS or insert a SD card in the dome camera to be able to use the log functions.

The number of event logs that can be stored on NAS or SD card depends on the capacity of the storage devices. When this capacity is reached, the system starts deleting older logs. To view logs stored on storage devices, click **Log** on the menu toolbar. The Log window appears. See Figure 16 on page 47.

Note: You must have view log access rights to search and view logs. See “Modify user information” on page 37 for more information.

Figure 16: Log window



1. Major Type
2. Minor Type
3. Start and end search time
4. Start search
5. Save searched logs

You can search for recorded logs by the following criteria:

Major type: There are three types of logs: Alarm, Exception, and Operation. You can also search All. See Table 7 below for their descriptions.

Minor type: Each major type has some minor types. See Table 7 below for their descriptions.

Date and Time: Logs can be searched by start and end recording time.

Table 7: Types of logs

Log type	Description of events included
Alarm	Alarm Input, Alarm output, Start Motion Detection, Stop Motion Detection, Start Tamper-proof, Stop Tamper-proof
Exception	Illegal Login, HDD Full, HDD Error, Network Disconnected and IP Address Conflicted
Operation	Power On, Abnormal Shutdown, Remote Reboot, Remote Login, Remote Logout, Remote Configure parameters, Remote Start Record, Remote Stop Record, Remote PTZ Control, Remote Initialize Storage Device, Remote Playback by File, Remote Playback by Time, Remote Get Parameters, Remote Get Working Status, Establish Transparent Channel, Disconnect Transparent Channel, Start Bidirectional Audio, Stop Bidirectional Audio, Remote Alarm Arming, Remote Alarm Disarming

To search logs:

1. Click **Log** in the menu toolbar to display the Log window.
2. In the Major Type and Minor Type drop-down list, select the desired option.
3. Select start and end time of the log.
4. Click **Search** to start your search. The results appear in the left window.

Operating PTZ control

In the live view interface, you can use the PTZ control buttons to realize pan/tilt/zoom control and other functions of the camera.

PTZ control panel

In live view, click / to display/hide the PTZ control panel.

Figure 17: PTZ control panel

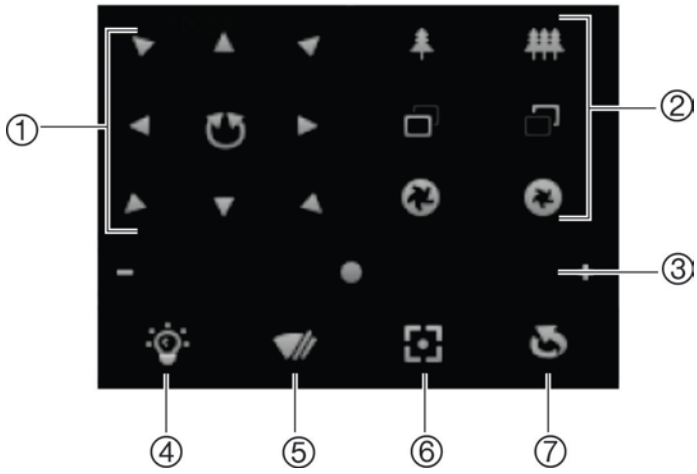


Table 8: Description of the PTZ control panel

No.	Description
1.	**Directional buttons**: Controls the movements and directions of the PTZ. Center button is used to start auto-pan by the PTZ dome camera.
2.	**Zoom, focus and iris**: Adjusts zoom, focus and iris.
3.	**PTZ movement**: Adjusts the speed of PTZ movement.
4.	Turns on/off the light, it is supported by those have RS-485 port cameras.
5.	Turns on/off camera wiper.
6.	Auto focus
7.	Initializes the lens

Note:

1. To realize pan/tilt movements using direction buttons, the camera connected to the network must support RS-485 and a pan/tilt unit must be installed to the camera. Please properly set the PTZ parameters on RS-485 Settings page referring to Defining RS-485 settings
2. To realize lens control, such as zoom or focus, the camera must support auto focus.

To set a preset:

1. Select a preset number from the preset list.

2. Use the PTZ directional buttons to move the camera to the desired position.
3. Click to finish the setting of the current preset.
4. You can click to delete the preset.

To call a preset:

1. Select a defined preset from the list.
2. Click to call the preset.

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